Can Licensing Induce Productivity? Exploring the IPR Effect

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Spillovers from Technology Transfers

Builds on:

- Work on FDI (e.g., Javorcik 2004, ...)
- Work on Licensing (e.g., Lopez 2008, ...)

Niche

Intellectual Property Rights as mediator, using Chilean Firm Level Data
Key Results

1. IPR can *facilitate* spillovers via forward linkages
2. IPR can *reduce* spillovers through backward linkages
   - Especially for firms with lower productivity

Prior concerns:

- Licensing activity small relative to FDI, Trade
- Role of Exclusive Licensing
- Linkages need not imply spillovers, nor do licensing (compensated) transactions imply no (uncompensated) spillovers
- Effect of IPR x Licensing interaction on TFP
  - vs. Indirect effect of IPR on TFP via Licensing
Search for Spillovers

Focus on firm $i$ in sector $j$, and spillovers from licensing activities in sectors $k \neq j$

$$\log(TFP_{ijrt}) = \beta_1 H_{jt} + \beta_4 (H_{jt} \times IPR_t) +$$
$$\beta_2 B_{jt} + \beta_5 (B_{jt} \times IPR_t) +$$
$$\beta_3 F_{jt} + \beta_6 (F_{jt} \times IPR_t) + \ldots$$

where $H_{jt} = \frac{\sum_{i \in j} L_{ijt}}{\sum_{i \in j} S_{ijt}}$, $B_{jt} = \sum_{k,k \neq j} \alpha_{jk} H_{kt}$, and $F_{jt} = \sum_{k,k \neq j} \sigma_{jk} H_{kt}$

- IPR acts as a toll or gatekeeper in this specification
- $L_{ijt}, L_{ikt}$ – and hence $H_{jt}, B_{jt},$ and $F_{jt}$ – may be functions of $IPR_t$
- What is impact of licensing on productivity? i.e.,
  $$\log(TFP_{ijrt}) = \phi \log(L_{ijt}) + \ldots$$
- Why deflate by sales, $S$?
Implications

- Need to learn more about $L$. Payment for? Use of intangible asset in production? Right to sell and distribute output? Input-output coefficients $\alpha_{jk}$ and $\sigma_{jk}$ do not provide that information. $H_{kt}$ measures the volume licensing payments in sector $k$.

- IP rights could facilitate technology diffusion (create trade that would not otherwise occur) – unless what was once a (legitimate) free use becomes one which requires permission or a contract.

- Lesson seems to indicate that incentives differ whether the licensor provides **inputs** or **outputs**.

- More anecdotes needed ...